

## Harmonics in power systems

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### Abstract

The greatest generators of harmonics in three-phase industrial **power** systems appear to be AC and DC motor drives, with the DC drive contributing to poor system **power** factor and the AC drive contributing the higher magnitude of harmonics per kilowatt output. A simple single-phase **power** circuit is used to demonstrate the effects of the harmonic current components generated by six pulse **power** converters on the AC voltage waveform. Harmonic **mitigation** using an AC line reactor is shown, and reactive **power** compensation and reduction of the fifth-harmonic component by means of a tuned filter is simulated. A review of US and UK current standards is given